**Lesson 12 : Structure of scientific papers:**

**Introduction:**

Scientific papersgenerally contain ordinary components as preliminary pages, main text, introduction, statement of findings and recommendations, results, implications of the results and summary.[[1]](#footnote-2)

In this lesson you will able to practice all the redaction steps of your research project.

**1-Structure of Research Report:**

Generally, a research report, whether it is called dissertation or thesis

-The Priliminary i.e. preface pages

-The text of the report / Main body of the report

-The Reference material.

**PRELIMINARY SECTION:**

* Title page
* Executive Summary
* Certification
* Candidate Declaration
* Preface including Acknowledgements
* Table of Content
* List of Tables
* List of figures
* List of Abbreviation

**CHAPTER 1-INTRODUCTION:**

1.0 Introduction

1.1 Background of the study

1.2 Problem Statement

1.3 Purpose and objective of the study

1.4 Research Questions / Hypotheses

1.5 Definition of Terms

1.6 Significant of the study

1.7 Conspectus / chapterization

**Cont:**

Within each chapter, repeat 3 times

* Intro. Well will show..
* Body. Show them..
* Conl. We have show

Within thesis, repeat contributions 3 times

* Intro chapter
* Main chapters
* Conclusion chapter [[2]](#footnote-3)

**CHAPTER 2-LITERATURE REVIEW:**

2.0 Introduction

2.1 Body of the literature – Classified, Chronological / Alphabetical

2.1.1 General area of research

2.1.2 Underlying theory

2.1.3 Variables used from previous literature

2.2 Theoretical Framework

2.3 Reviews on

2.4 Hypotheses

2.5 Inferences

**Cont:**

Examiner looking:

* Is the literature relevant
* Is the review critical or just descriptive
* Is it comprehensive
* Does it link to the methodology in the thesis
* Does it summarize the essential aspects

**CHAPTER 3 – RESEARCH METHODOLOGY:**

3.0 Introduction

3.1 Research Design / Plan on work

3.2 Variable and Measurement

3.3 Graphs / figures

3.4 Questionnaire design / Data sheet

3.5 Population and Sample

3.6 Scope of the study

3.7 Data analysis method

3.7.1 Goodness of data

3.7.2 Inferential analysis

3.7 Style of rendering

3.8 Concluding remarks

**Cont:**

Examiner looking for :

* Clear hypothesis
* Precautions taken against bias
* Limitations identified
* Data collected appropriately
* Methodology justified [[3]](#footnote-4)

**CHAPTER 4- DATA COLLECTION, DATA ANALYSIS:**

4.1 Introduction

4.2 Goodness of Measure

4.2.1 Representativeness of data

4.2.2 Validity test,

4.2.3 What to the data mean,

4.2.4 What impact do the data have

4.2.5 Reliability test

4.3 Inferential analysis

4.3.1 Descriptive analysis

4.3.2 Test of difference

4.3.3 Test of relationship

* + - Correlation analysis
    - Hypothesis testing

4.4 Concluding remarks

**Cont:**

Examiner looking for :

* Have the hypotheses in fact been tested
* Are the results shown to support the hypothesis
* Is the data properly analyzed
* Are the results presented clearly
* Are patterns identified and summarized [[4]](#footnote-5)

**CHAPTER 5-DISCUSSION AND CONCLUSION:**

5.1 Recapitulation of major findings

5.2 Discussion

5.3 Implication

5.3.1 Theoretical Implication

5.3.2 Practical Implication

5.4 Limitations

5.5 Recommendation for future research

5.6 Conclusion

**Cont:**

Examiner looking for :

* Are the limits of the research identified
* Are the main points to emerge identified
* Are links made to the literature
* Is there theoretical development
* Are the speculations well grounded

**REFERENCE MATERIAL:**

The reference material is generally divided as fallows

* 1. Bibliography Style manual
* 2. Appendices
* 3. Glossary of terms (if any)
* 4. Index (if any) [[5]](#footnote-6)

**Difficulties or Problems in Writing a Report:**

1) The Problems of Communications

* + - a. Technical terms should be properly explained.
    - b. Neither too simple nor too difficult expression
    - c. Level of Knowledge and subject-matter
    - d. Language and drafting

2) The problem of objectivity .

3) The Problems of expression of bitter truths and unpleasant facts[[6]](#footnote-7)

**Preparation of reports:**

* For preparations or drafting of reports three steps are involved.
* 1) First Draft:
* Comprehensiveness or fullness of facts.
* Precision or Accuracy of Facts
* Coherence or logic of facts, and
* Movement or transition of facts and ideas.

**Second Drafts & Third Drafts:**

* 2nd make the writing precise, Concise and brief.
* critical evaluation on written-facts,
* findings, conclusions and recommendations.
* 3rd The final stage in drafting is the preparations of final report.
* finish and final touches,
* documentation and polish
* Documentation indicated the references to the sources,
* additional data and discussion
* further reading
* thoroughness of the investigation
* guide to further work.

**Characteristics of good Thesis report:**

* 1) Attractive
* 2) Clear Topic
* 3) Balanced Language
* 4) No repetition of facts
* 5) Statement of scientific facts
* 6) Practicability
* 7)Description of the difficulties and the shortcomings

**Good the Report:**

* Review of literature
* Treatment of quotations
* Size and Physical Design
* Footnotes
* Use of Abbreviations
* Use of Statistics, Charts and Graphs
* Bibliography, Index & Appendices
* Thesis –writing is an art learn by practice and experience.[[7]](#footnote-8)

**2- Structure of** **journal paper:**

**Getting started:**

* Identify what already known; aim of your study & what knowledge it adds
* Can cut & paste from ethics applications, research proposal, reports, etc
* Re-write including changing tense if necessary
* Follow instructions for all sections & aspects of manuscript

**Title page:**

* Distilled description: Include information that will make electronic retrieval sensitive & specific
* Information about study design (eg RCT)
* Words / characters may be limited

Names, degrees, institute affiliation of author & co-authors

Name and contact details for corresponding author

Check instructions carefully & follow [[8]](#footnote-9)

**Abstract:**

* Very important ! (may be all that is read)
* Accurate & clear summary
* If structured use Journal headings
* Keep to word count
* No references
* Can write at end after written full paper

**Key words:**

Helps others find your work

Keep to designated number (may range from 3 to 10)

Use words in Title & Abstract

**Main text:**

* Use Journal headings
* Logical flow from one part to the next
* Keep text in correct sections: do not mix up background, methods, results or discussion
* Study aim at end of introduction / background
* Keep to word count

**References:**

* Use bibliography software
* Import from databases (eg Medline) whenever possible
* Compile as you go
* Use style designated by Journal

**Acknowledgements:**

* Participants
* Colleagues
* Funders

Some journals require written permission to name colleagues

**Cover letter:**

Why Editor should publish your work:

* Fit with Journal’s aim & scope
* Perceived value to journal audience
* Relationship of study to existing body of work
* What research adds to what is already known.[[9]](#footnote-10)

**Conclusion :**

Through this lesson, we arrive at the conclusion that the structure of scientific papers must be subject to methodological standards and conditions that the researcher must respect, whether it comes to graduation project or articles, by adhering to the advice and instructions of the thesis director.

1. Pushpalata Trimukhe: **Research mEthodoLogy**  [↑](#footnote-ref-2)
2. **.** S. Srinivasaragavan : **Thesis writing** ,Department of Library & Information Science

   [↑](#footnote-ref-3)
3. ibid

   [↑](#footnote-ref-4)
4. ibid

   [↑](#footnote-ref-5)
5. **.** S. Srinivasaragavan : **Thesis writing** op, cité [↑](#footnote-ref-6)
6. ibid

   [↑](#footnote-ref-7)
7. ibid

   [↑](#footnote-ref-8)
8. Kelly Hogan : **How to read a scientific paper** , p20 [↑](#footnote-ref-9)
9. ibid [↑](#footnote-ref-10)